The Maryland Fruit Grower

Published Quarterly by the Maryland State Horticultural Society

Edited by the Secretary, A. F. Vierheller, Extension Horticulturist

Vol. 12 **October-November, 1942** **No. 4**

USE COPPER COMPOUNDS CAREFULLY

On September 7, and 24, the War Production Board issued orders that after October 1, producers and distributors of copper compounds must be authorized to make deliveries and those accepting delivery shall use these copper compounds for specific purposes. Individual farmer buyers at time of placing their order or at purchase will specify in writing to their supplier, that the amounts they obtain will be used solely for agricultural purposes, such as fungicides, preservatives, etc. This calls for conservation or wise use of copper fungicides. Spray or dust when really necessary. Know the disease and make applications timely. We are finding that some copper sprays or dusts may be made up in more dilute mixture. Sometimes sulfur compounds will do the job just as well. While our copper output this year will be about 257,000 short tons (more than the whole world supply of 1938), we must consider that war needs have greatly increased. A medium tank uses about a half ton of copper; a Flying Fortress a ton and a half. We won't see many packages of spray materials lying around in the sheds this year. It's good management to seal up unused sacks of dust or drums of liquid spray materials. Keep dusts where they will be dry, and liquids where they won't freeze. Store hose without kinks and keep in a cool, dark place. And don't forget those repair parts.

Save Scrap

THOSE DROP APPLES

As a rough estimate it can be stated that between 300,000 and 400,000 bushels of good Maryland apples hit the ground, during October. This was a general condition throughout the Cumberland-Shenandoah section, also in some of the mid-west States, according to reports. Early maturity due to earlier blooming season was one cause of dropping. It has been found that some apple varieties have a certain range of optimum number of days between bloom and picking date. Also, there was hot weather, then a week of rain and wind, also some very cool to very cold nights. Most growers used "harvest sprays", but if applied during cool weather these sprays did not have much effect. Then, some growers did not get into the blocks before the spray had lost its effect. Also, plenty of trees were carrying too much fruit. Orchard labor supply shortage was responsible for a lot of the loss, as thinning and picking could not be done properly or timely.

In the emergency, county war bonds, horticultural societies, and notably National Apple Institute and Appalachian Apple Service managed to get an additional allotment of tin plate for canning about a half million bushels of apples, and the National Association of Food Chains ran a special week's drive on drop apples in chain stores in Pennsylvania, West Virginia, Virginia, and Maryland, November 2 to 7. The A.M.A. officials were contacted but

they could not take these apples in Government purchases as their supplies move slowly, and the apples would not have held up under such conditions. The trucks began buying a lot of these apples and efforts were made to find canners who could make up some apple butter for which there was heavy demand for military use. A good outlet was found through purchases for frozen slices, juices, cider, vinegar, and also for apple syrup. There was considerable loss but several growers stated that the salvage was rather good. R. C. Hawes, Extension Marketing Specialist, Baltimore, "plugged" the drop apple sale over WFBR, Baltimore, and the sale was continued for 2 weeks, ending November 14.

Buy Bonds

DEHYDRATION OF APPLES RECEIVES NEW ATTENTION

A. LEE SCHRADER, Prof. of Pomology,
University of Maryland

With the new emphasis placed on the dehydration of fruits for war-time and after-war use, it has become essential that experimental work be done for the Shenandoah-Cumberland apple section as to varietal suitability and improvement of methods to secure a high quality product. To this end, since early September, work has been in progress at the University of Maryland Agricultural Experiment Station at College Park with the varieties Jonathan and Grimes. Two types of dehydrators, namely, the cabinet dehydrator and the tunnel dehydrator, have been used which have been designed with adequate control of temperatures, humidity, air flow, and load of fruit. With these factors under control and subject to experimental change, some very satisfactory results have been obtained with the two varieties mentioned. More work is in progress on varieties Stayman, Rome, York, Ben Davis, and Winesap and these varieties will be dried as sections of fruit as well as in rings, 3/16 inch thick, the method used with Jonathan and Grimes. Studies also will be made on the Vitamin C, sugar, and acid contents, and acid contents, and bacteriological changes during processing and storage. The Departments of Horticulture, Agricultural Engineering and Bacteriology are cooperating on this project to obtain these data.

Commercial apple canning plants in this area are now installing dehydrating equipment, anticipating the need for dehydration of apples especially in a coming season, when the tin shortage will be acute and greater demand for dehydrated apples will be shown.

COLD STORAGE REPORT

On Oct. 1, 1942, there were 11,105,000 bushels of apples reported in cold storage in the U. S. and 31,670,000 bushels on November 1, 1942. Of this total, 733,000 bushels were A.M.A. purchases. In the South Atlantic States (Del., Md., D. C., Va., W. Va., N. C., S. C.) there were 57,000 barrels; 106,000 Western boxes; 1,440,000 Eastern boxes and 3,566,000 bushel baskets in storage on November 1, 1942.

Fruit Grower—"Your time-sheets should be made out so even the most ignorant could understand them." Orchard Boss—"You're right. Now what part of them can't you understand?"

MAINTAINING PRODUCTION WITH LESS NITROGEN

With a probable reduction in nitrogen fertilizer, growers are advised that pruning, thinning, removal of poor trees, and some changes in soil management should receive special attention, this year. With decreased nitrogen supply, we must reduce the useless wood and lighten the load of fruit per tree. Mr. A. H. Teske states the case in September, 1942, "Virginia Fruit":

"In the past nitrogen fertilizers were available in unlimited quantities. Today much of the chemical nitrogen is being used for war purposes. This together with the serious transportation problems has resulted in a very marked reduction in the amount of nitrogen that is available to fruit growers. It has been estimated that the amount of nitrogen fertilizer available for the fruit industry in 1943 will be about 75 percent of the amount used in 1942. The amount could easily be reduced to 50 percent and even less for the years that are ahead of us. Such a reduction in the use of nitrogen fertilizers in fruit orchards would seriously affect tree growth and production. It is, therefore, necessary that apple and peach growers give immediate attention to a program for maintaining yields with this reduced nitrogen feitilizer supply. There are several ways of approaching the problem. One way is to use the available nitrogen supply most efficiently. In working out a program that will give the best results consideration should be given to the time of application in order that the nitrogen application should be made when it will do most good and at the same time reduce loss through possible leaching, also from competition from sod or other cover crops. With these points in mind it may be well not to apply the nitrogen fertilizer too far in advance for the blooming period. On the other hand, the application should not be delayed until sod or other covers become active and take up the nitrogen before it gets down to the tree roots. In order to prevent this it would be well to break up the sod by discing or by the use of a spring tooth harrow.

"There are a large number of orchards in which more efficient use of the nitrogen fertilizer could be secured by *better pruning.* In orchards where the trees are thick and bushy or where most of the branches on the tops of the limbs have been removed by pruning leaving a crowded mass of downward growing branches of weak wood on the under side, it would be advisable to cut out a good part of these and spindly branches making more nitrogen available for the stronger and better fruit wood that is left. The fruit that is usually on the under side of thick growing trees is small and of poor color. When it is sold it lowers the price of the better fruit. Pruning of the type mentioned above would have the further advantage of *reducing the work of thinning.* In every orchard there are some weak trees; others contain trees of undesirable varieties. Feeding such trees valuable nitrogen fertilizer is a distinct waste and with the price of spray materials and labor on the increase, it would seem a most opportune time to take out all such nitrogen-wasting trees. *Better pruning* and the *removal of undesirable trees* would conserve nitrogen fertilizer up to as much as one-fourth of the normal amounts used in some orchards and still maintain or even increase growth and production.

In working out a war-time fertilizer program for the orchard it should have as its first object, a way for making available additional nitrogen to supplement the reduced supplies of commercial nitrogen fertilizer. One of the best ways to do this is to draw upon the reserve supply that is already in the orchard.

During recent years fruit growers have been using the sod system of culture to a greater extent. They have been using large amounts of lime and phosphate and many have also included potash. As a result sod and other crops have been thicker and heavier. These covers have been producing and adding large supplies of organic matter to the orchard. Valuable top soil has been kept from washing away. Water run-off has been reduced and there has been built up a reserve of organic matter which is nothing more or less than stored nitrogen and other minerals. How much reserve nitrogen there is in any particular orchard will depend upon the original fertility and how well the grower has carried out the soil conservation program. But here is a reserve supply of nitrogen that can be used in this emergency. It can be released by breaking up the sod by discing and how much is released will depend upon the thoroughness with which the sod is cut up. For best results in securing nitrogen from the sod for spring needs of the trees, the discing should be done in January or February. A thorough discing of a good sod will supply nitrogen up to as much as one half of the normal application.

To provide for additional nitrogen for 1944 and beyond, the orchard program should make all possible use of legume and other covers and since phosphate, potash and lime are still available, it is suggested that liberal applications of these fertilizers be used on all orchard covers."

Remember our advertisers

THE FORTY-FIFTH ANNUAL MEETING

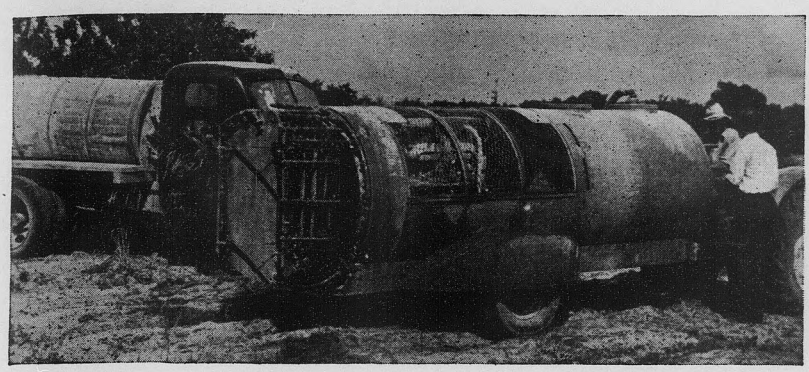
The Maryland State Horticultural Society's Annual Meeting will be held at Hotel Alexander, Hagerstown, Md., on Wednesday and Thursday, January 6 and 7, 1943. Timely and pertinent problems will be discussed. Reserve these dates. All fruit growers everywhere invited. Programs will be mailed in December. No commercial exhibit, but commercial representatives will be present.

BULLETINS YOU MAY LIKE

U. S. Dept. of Agriculture Bulletins 1166 & 1272 (Walton & Bidwell), Washington, D. C.

Massachusetts Agr. Exp. Sta. Report, 1905—Amherst, Massachusetts.

Vermont Agricultural Experiment Station Report, 1901-1903, Burlington, Vermont.



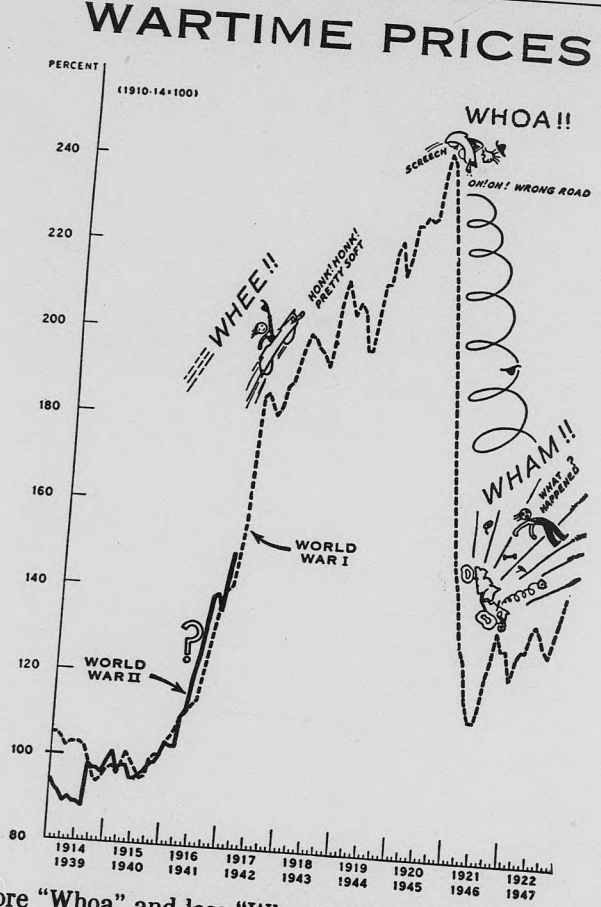
The latest in Speed Sprayers, located on W. F. Allen Orchard, Salisbury, Maryland. In this picture the peach spray head on the machine was set to deliver a heavier spray load in the tops of tree, as freeze had destroyed most of the blossoms on the lower half of trees. The tractor operator controls the spray output by means of valves on the front of the tank, just back of the tractor. Older models required a man inside the machine to control the spray output. Material is hauled and pumped into the sprayer by the "soup wagon" in background. A rotary pump supplies material at about 40 pounds pressure, to the nozzles, where the high-speed airplane propeller fan blows the spray into the trees as a fine mist.

FARM LABOR

U. S. Bureau of Agricultural Economics report of October 26, 1942, shows average Farm Wages Rates as of October 1 for various states, in comparison with rates of same date one year ago. Maryland average rates were:

Per month with board	**Oct. 1, 1941—$35.00**	**Oct. 1, 1942—$43.00**
Per month without board	**Oct. 1, 1941— 49.50**	**Oct. 1, 1942— 59.75**
Per day with board	**Oct. 1, 1941— 2.10**	**Oct. 1, 1942— 2.95**
Per day without board	**Oct. 1, 1941— 2.75**	**Oct. 1, 1942— 3.75**

The Delaware rates run from 50c to a dollar higher, in the various classes outlined above. Virginia and West Virginia average about $7.00 to $11.00 lower in the various monthly rates, and from 75c to $1.40 lower in the various day rate arrangements. West Virginia is lower than Virginia and North Carolina is still lower in wage rates than West Virginia. Pennsylvania rates vary with plan, being slightly higher or lower than Maryland rates under the different plans. New York and New Jersey rates are considerably above Maryland. Monthly rate with board in New York and New Jersey are (1942) $56.75 and $56.00 respectively, and without board $79.25 and $85.50 respectively. For the U. S. the day date increase over 1941 with or without board increased about 70 cents average, and monthly rate with or without board increased $13.38 and $13.78 respectively. The Maryland farm labor index on July 1 was 62% of the 1935-39 period, and on October 1, the index was 46%, showing relative change in farm labor supply.



More "Whoa" and less "Whee" will avoid a "Wham"

From Wartime Series No. 2., U. of Md., Extension Service. Write for it.

RABBIT REPELLENT

Quarterly Bulletin, Michigan Agricultural Experiment Station, Vol. 24 No. 1, August, 1941, reports tests of over 200 materials and mixtures to repel cottontail rabbits. It is stated:

"The only repellent that proved to be safe to use on the trees, as well as effective against cottontails, was a formula consisting of rosin and ethyl alcohol. In these trials the trees treated with the rosin-linseed oil formula showed positive evidence of restricted growth.

"Preparation and Application. The dark-colored, cheaper grades of rosin and the cheaper grades of denatured commercial ethyl alcohol were found to be as satisfactory as the higher grades. So-called "anti-freeze" alcohol may be used if it does not contain methyl alcohol. Methyl alcohol (wood alcohol or methanol) does not dissolve rosin.

"A satisfactory coating may be made by dissolving 7 pounds of rosin in a gallon of alcohol. These proportions are slightly more than one part of rosin to one part of alcohol, by weight. A good method of mixing is to pulverize the rosin and add it to the alcohol in a container with a cover tight enough to allow shaking and prevent evaporation. If the container is kept in a warm room, and shaken occasionally, the rosin will dissolve more rapidly. *No heat should be applied.* To heat the solution is not only dangerous but may drive off enough alcohol to alter the composition of the mixture. Handled in this fashion, the rosin is usually dissolved in 24 hours. It is well to mix at one time only as much as will be used in a few days.

"Water causes a white precipitate to be formed in this solution. If much of this precipitate is present it will greatly alter the consistency of the repellent, or even seriously interfere with its application. To avoid contamination of the reserve stock, a small container should be used in the orchard. The brush will pick up water from snow or damp soil and carry it into the field container. Therefore, the repellent solution should not be poured from the field can back into the reserve stock.

"Trees treated with the rosin-alcohol repellent always turn white in the next rain or snow. This does not change the effectiveness of the repellant. Indeed, a white surface reflects sunrays and may minimize winter injury.

"The trees should be treated in the fall and only when the bark is dry. One application of this repellant protects all winter. It should be applied to the trees with a cheap paint brush. Brushes, containers, and gloves may be cleaned with alcohol. Cottontail rabbits can reach about two feet; therefore, young trees should be painted two feet higher than the snow is expected to drift. Scaffold limbs of low-branching trees should be treated when they are within the zone of possible rabbit damage.

"Field tests show that one gallon of repellant will be sufficient to treat about 150 to 200 two-year-old nursery trees, the exact number depending on the height of treatment and size of tree. One man found that he could coat about 35 four-year-old apple trees in an hour."

NOTE—Another good repellent for rabbits is copper carbonate powder and linseed oil. The powder is mixed with the oil to the consistency of thin paint, and is brushed on the tree trunks about like a priming coat of paint on new wood. A thick coating may make the bark rough and flaky but does not injure tree trunks. This repellent was developed at Iowa Experiment Station and has been used in University of Maryland orchards for several years.

ANNUAL APPLE EXHIBIT

Annual Apple Exhibit to be held at Lord Baltimore Hotel, January 13 and 14, 1943. Growers intending to exhibit, please notify A. F. Vierheller, College Park, Maryland, immediately.

Don't Cut Down A Tree Dying Of

Root Rot

WITHOUT FIRST TRYING

SCALECIDE

Scalecide has saved so many thousands of trees suffering from root rot that we cannot emphasize this too much.

The treatment is simple, as it is inexpensive. Simply pull the earth away from the base of the tree, as shown in the illustration, and pour in dilute Scalecide (1 to 15), using twice as much as would be required to spray the top—or more if needed to soak the roots well, then replace the earth.

Do this any time of the year, but not in freezing weather or when the ground is frozen. Scalecide is the one oil safe on the roots of trees. You can save many trees in this manner.

If your trees have collar rot, spray the cankered areas with Scalecide 1 to 15 and notice the improvement. This is merely another instance of the many benefits of this great dormant spray.

Send for special literature of this subject.

B. G. PRATT COMPANY

50 Church Street **Dept. "F"** **New York, N. Y.**